REMARKS

The above amendments to the above-captioned application along with the following remarks are being submitted as a full and complete response to the Office Action dated April 23, 2003 (U.S. Patent Office Paper No. 10). In view of the above amendments and the following remarks, the Examiner is respectfully requested to give due reconsideration to this application, to indicate the allowability of the claims, and to pass this case to issue.

Status of the Claims

Claims 1 to 7 are pending in this application.

Applicant hereby submits that no new matter is being introduced into the application through the submission of this response.

Prior Art Rejections

Claims 1 to 5 were rejected under 35 U.S.C. §102(b) as allegedly being anticipated by Lockhart *et al.* (*Nature Biotechnology*, vol. 14, pp. 1675-1680, 1996).

Applicant respectfully traverses this rejection.

The Examiner alleges in the Office Action, on page 2, lines 16 – 17, that "the term "hybridization level" and "similarity score" reads broadly to cover the teachings of Lockhart *et al.* about hybridization intensities." The same allegation is repeated in the Office Action on page 3, lines 7-8, regarding the Schena *et al.* reference and on the same page, lines 23-24, regarding the Slater *et al.* reference. Applicant respectfully disagrees in all instances.

Applicant has carefully reviewed the Lockhart reference. The Lockhard reference discloses displaying hybridization levels or intensities as result of hybridization experiments. The Lockhardt reference does not disclose obtaining a "similarity score" by the probes used in the hybridization experiments. It also fails to disclose displaying the "similarity score" along with the hybridization levels or intensities.

On page 2, lines 10 – 15, the Examiner alleges that figures 3 and 5 of the Lockhard reference teach the present invention, more precisely "a method of displaying results in which a plurality of probe biopolymers immobilized on a biochip are hybridized to a sample biopolymer comprising the step of displaying information obtained in a hybridization experiment about a hybridization level for each probe with similarity score representing similarity of base sequences. Aplicant respectfully disagrees.

Figure 3 of the Lockhart reference shows a dependency between the intensity of the hybridization signals intensity and the RNA concentration (target concentration). Figure 5 from the same reference shows a fluoresence image of an array with hybridized probes. The Examiner alleges that the above figures teach phycoerythrin and fluorescence emissions in experimental protocol. The section "Experimental Protocol" present on page 1679 of the Lockheart reference, and more precisely its subsection "Quantitative analysis of hybridization patterns and intensities" teaches analyzing hybridization patterns and intensities on the array. However, it does not teach displaying the "similarity score" along with the hybridization levels or intensities.

Given the differences outlined above, between the Lockheart reference and the present invention, Applicant respectfully asks the Examiner to reconsider claims 1 to 5, and to pass these claims to issue.

Claims 1 to 7 were rejected under 35 U.S.C. §102(b) as allegedly being anticipated by Schena *et al.* (*Science* , vol. 270 pp. 467-470 1995). Applicant respectfully traverses this rejection.

The Examiner alleges in the Office Action on page 2, lines 20-21 to page 3, lines 1 – 4 that "Schena *et al.* teach a method of displaying results in which a plurality of probe biopolymers immobilized on a biochip are hybridized to a sample boipolymer comprising step of displaying information obtained in hybridization experiment about a hybridization level for each probe with similarity score representing similarity of base sequences. They also teach showing the display of plurality of biochips." Applicant respectfully disagrees.

The Examiner makes reference to the whole document 1, page 468 and figure 1 from the same reference in support for his allegation. Applicant respectfully disagrees. The entire Schena *et al* reference teaches only about hybridizing the probes on microarray and monitoring gene

expression thereon by using fluorescent scanning. No teaching about displaying the "similarity score" along the hybridization levels or intensities, as disclosed in claim 1, is contained in this reference.

Based on the above, Applicant respectfully asks the Examiner to reconsider claim 1, and to indicate the allowablility of this claim over the Schena *et al.* reference.

Claims 2 to 7 depend from and add features to an independent allowable claim. Therefore, they are also allowable over the cited reference at least due to the same reasons as outlined above.

Claims 1 to 7 were rejected under 35 U.S.C. §102(e) as allegedly being anticipated by Slater *et al.* ,U.S. Patent 6,448,387 (September 10, 2002). Applicant respectfully traverses this rejection.

The Examiner alleges on page 3 of the Office Action, lines 15 to 20 that "Slater *et al.* teach a method of displaying results in which a plurality of probe biopolymers immobilized on a biochip are hybridized to a sample biopolymer comprising a step of displaying information obtained in hybridization experiment about a hybridization level for each probe with similarity score representing similarity of base sequences." The Examiner bring as support for its allegation the whole document as teaching arrays with measuring level of hybridization signal of different dyes. He also refers to figure 1 as teaching the display of biochips.

Applicant respectfully disagrees. The Slater reference discloses immobilizing target molecules on array, providing probes to hybridize with the target molecules and displaying the hybridization intensities of the target. The array is scanned to produce a digital image representing the hybridization intensities thereon, as shown in Figure 3 and described in sections Examples 1, 2, and 3. The Slater reference fails to teach displaying the "similarity score" of the targets immobilized on the array together with the hybridization intensities.

Due to the fact that the cited reference fails to teach or suggest all the features disclosed by claim 1, Applicant respectfully again asks the Examiner to reconsider claim 1, and to pass this claim to issue.

Claims 2 to 7 depend from and add features to an independent allowable claim. Therefore, they are also allowable over the cited reference at least due to the same reasons as outlined above.

CONCLUSION

In view of all the above, Applicant respectfully submits that certain clear and distinct differences as discussed exist between the present invention as now claimed and the prior art references upon which the rejections in the Office Action rely. These differences are more than sufficient that the present invention as now claimed would not have been anticipated nor rendered obvious given the prior art. Rather, the present invention as a whole is distinguishable, and thereby allowable over the prior art.

Favorable reconsideration of this application as amended is respectfully solicited. Should there be any outstanding issues requiring discussion that would further the prosecution and allowance of the above-captioned application, the Examiner is invited to contact the Applicant's undersigned representative at the address and phone number indicated below.

Respectfully submitted,

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